AgriLIFE EXTENSION
Texas A&M System
Williamson County

WILLIAMSON COUNTY CENTER – 3151 SE INNER LOOP,
GEORGETOWN, TX 78626 (512) 943-3300
HTTP://WILLIAMSON-TX.TAMU.EDU

Turfgrass Diseases
Brown Patch and Take-All Root Rot Diseases on St. Augustinegrass Lawns

Dr. Phil Colbaugh, Texas Agricultural Experiment Station, Dallas
Dr. James McAfee, Extension Turfgrass Specialist

Rhizoctonia brown patch and the Take-All Root Rot fungus are common problems on St. Augustinegrass lawns in Texas. The activity of both diseases is influenced by weather conditions and by turfgrass management practices that encourage disease activities. Rhizoctonia blight (aka brown patch) is active in fall and spring, but is primarily a problem in the fall. Take-All Root Rot (TARR) disease on St Augustinegrass is not so familiar to homeowners but has increasingly appeared on lawns during the past decade. The TARR disease is also active during the transition seasons when soil temperatures are in the 60 to 65 degree range.

Rhizoctonia blight (Brown Patch):
The fungi causing Rhizoctonia blight primarily attacks the base of the leaf blade causing roughly circular patches with symptoms of yellowing and wilting turf to appear. An easy test to determine the presence of this disease is to pull on affected leaf blades in areas of lawns that display symptoms and determine if the leaves are diseased. When Rhizoctonia blight is active, leaf blades can easily be pulled away from the St. Augustinegrass stolons and display a basal rot of the leaf sheath at the point of attachment to the stolons.

Brown patch symptoms usually appear as circular patterns on lawns when night-time temperatures drop below 70 and soil moisture levels are high. Very rarely will brown patch actually kill the affected turfgrass plants. The disease generally only attacks the leaf blades and the stems (stolons) remain green and roots will remain white and active.

Take-All Root Rot:
The fungi causing Take-All Root Rot initially attacks the root system of the affected turfgrass plants and eventually works its way into the stolons and crown (growing points) of the plant. Symptoms for this disease include: stems (stolons) that pull up from the ground easily, similar to grub damage, brown to black roots, and small dark spots on the stems. Unlike white grubworm damage where roots are cut off by insect chewing, the TARR disease causes roots to remain attached to stolons and become withered and brown.

Under a microscope, the roots and runners reveal dark fungal strands with hyphopodia (loped, fungal attachments) which anchor the fungus onto its host plant. These dark fungal strands can be observed using a hand lens to examine stolons in affected areas of turf.

Unlike Brown patch, the Take-All Root Rot fungi can commonly destroy large areas of turfgrass. Patches of Take-All Root Rot are usually irregular in shape and can involve large areas of turf. Although this disease is primarily active when soil temperatures are cool, effects of the fungus activity can extend into the summer period where turf becomes yellow, thinned and weak growing during the hot periods of the year.

Disease Prevention:
While both of these diseases attack most turfgrasses, they are primarily a problem on St. Augustinegrass. The real key to controlling these two diseases, especially Take-All Root Rot, is to prevent stress in the turfgrass plants. Common stress problems found in turfgrass sites include: Excess shade; Thatch; Soil compaction; Poor drainage; Improper use of herbicides; Over fertilization; Excess supplemental irrigation.

Cultural Controls:

Management practices include:

Aerate to prevent soil compaction problems.
Avoid excess stimulation of excess top growth with too much nitrogen fertilizer.
Water deeply and infrequently.
Use herbicides carefully and sparingly.
Monitor grass on regular basis.
Provide for good drainage.

Topdressing with peat: For Take-All Root Rot Control, research at the Texas A&M Research Experiment Station in Dallas showed that topdressing at a rate of 1 bale of peat moss (approximately 3.8 cu. ft.) per 1000 sq. ft. of turf area was sufficient to protect turf for 2 years. The acidity in the peat moss (pH = 4.4) was shown to suppress the fungi causing the take-all root rot.

Fungicide Control:

Take All Root Rot (timing of application critical) -

- Spectracide immunox
- Ferti-lome Systemic or Ortho Lawn Disease Control (Propiconazole)

Brown Patch –

- Turfcide (PCNB)
- Spectracide immunox
- Ferti-lome Systemic or Ortho Lawn Disease Control (Propiconazole)
- Hi-Yield Maneb (Mancozeb)
- Green Light Broad Spectrum (Bayleton)
- Fung-Away

Follow all label directions and water in chemicals when label directs.

Revised 12/08

AgriLIFE EXTENSION
Texas A&M System

Williamson County

WILLIAMSON COUNTY CENTER – 3151 SE INNER LOOP,
GEORGETOWN, TX 78626 (512) 943-3300
HTTP://WILLIAMSON-TX.TAMU.EDU

Lawn Maintenance Program

March 1 — Before St. Augustine and Bermuda start actively growing, mow down to 1 inch and maintain at a 1 to 2 inch height. Remove grass clippings following this mowing to remove leaf litter and other debris.

Scalp zoysiagrass down to 1.0 inch March 15 to April 1 and remove clippings. Then continue mowing at 1.5 inch height weekly. Do not remove grass clippings unless the grass made excessive growth since the last mowing.

March 15-April 1 — Fertilize bermudagrass and St. Augustinegrass lawns in late March to early April and Buffalo and Zoysia in late April to early May with 1-0-0 ratio fertilizer at a rate of 1.0 pound of actual nitrogen per 1,000 sq. ft. (using a slow release source of nitrogen). This would be equivalent to 5 pounds of 21-0-0 or 7 pounds of 15-0-0 per 1,000 sq. ft. Water the lawn thoroughly after applying the fertilizer. If iron chlorosis is a problem, apply iron sulfate, iron chelate or another source of iron to the lawn. Note, iron will stain surfaces such as wood, concrete, metal, etc. Always follow label directions no matter which source of iron is used.

April 1-15 — Treat lawns with a bait for control of fire ants. If mounds are present in the lawn, treat the mounds with an insecticide 7 to 10 days after the application of the bait.

Water the lawn as needed to prevent severe wilting of the turfgrass plants, but water thoroughly when irrigation is necessary. After watering, check the depth of water penetration. The soil should be wet to a depth of at least 4 inches. You may need to operate the sprinklers for 15 to 20 minute cycles at one hour intervals until the soil is wet to a depth of 4 inches. This procedure allows all the water to move into the soil rather than running off into the street.

May 1-15 — Fertilize bermudagrass at 1.0 pound of actual nitrogen per 1,000 sq. ft. For St. Augustinegrass grown in full sun apply 1.0 pounds of actual nitrogen per 1,000 sq. ft. in late May to early June. For all grasses, repeat the March iron application on a monthly basis.

Monitor grasses for any disease activity such as brown patch in St. Augustinegrass and dollar spot in bermudagrass. Treat with appropriate fungicide if a disease becomes active in the lawn.

June 1-15 — Check lawns for any insect activity. Use Talstar or Tempo for chinchbugs. For fire ant mounds use products such as Orthene or Talstar.

July 15-30 — Check lawns for grubs. Use a sharpshooter to remove a one square foot section of sod and examine the sod to a four inch depth. If more than 4 to 5 grubs per square foot are present, treat the lawn with an insecticide for control of the grubs. Follow label recommendation for control of grubs. The insecticide application must be watered in thoroughly for effective grub control.
Examples:
Merit (imidacloprid): Bayer Advanced Lawn Season Grub Control and Scotts Grub Ex.
Mach II (halofenozide): Hi-Yield Kill-A-Grub and Spectracide Grub Stop.
Dylox (trichlorfon): Bayer Advanced 24 Hour Grub Control and Hi-Yield 6.2 Granular Insecticide.

August 1-15 Fertilize bermudagrass lawns with 1.0 pound of actual nitrogen per 1,000 sq. ft.

September 1 Apply a preemergent herbicide for the control of annual winter weeds in the lawn. Water the herbicide application in thoroughly as soon as possible.

September 15-30 Monitor St. Augustinegrass and zoysiagrass lawns for brown patch activity. If brown patch becomes active, treat with one of the following fungicides:

PCNB: Hi-Yield Terraclor Granular Fungicide, Crompton Turfcide 10 G and Hi-Yield Turf and Ornamental Fungicide.

propiconazole: Fertilome Systemic Fungicide, Ortho Lawn Disease Control and Bonide Infuse

myclobutanil: Spectracide Immunox, Green Light Fung-Away Systemic Lawn Fungicide Granules and Fertilome F Stop.

thiophanate-methyl: Green Light Systemic Fungicide, Ferti-lome Halt Systemic Fungicide and Scotts Lawn Fungus Control.

If Take-All Root Rot becomes a problem treat with myclobutanil –see above list or propiconazole – see above list.

October 1-15 Fertilize lawns with a 2-0-1 ratio fertilizer at 1.0 pound of actual nitrogen per 1,000 sq. ft. using a slow release source of nitrogen. This would be equivalent to 5 pounds of 20-0-10 per 1,000 sq. ft. Repeat iron application if iron chlorosis is a problem.

November-January During the dormant stage, water the lawn every 4 to 5 weeks if adequate rainfall does not occur.

Measure the lawn so that fertilizers and pesticides may be applied at the recommended rates per 1,000 sq ft.

Always calibrate granular applicators and sprayers prior to applications of fertilizers and pesticides.

Revised 04/09